Teachers' use of various instructional methods

Determining which teaching methods are most effective for educating students has historically been a topic of debate in the education community. As a result of the education reform movement, many teachers are introducing new teaching methods, such as using exercises to build student knowledge rather than those requiring students to memorize facts. A snapshot of the various instructional methods currently being used in the classroom can help us better understand how teachers are communicating with students, as well as serve as a baseline for monitoring the acceptance of these methods over time.

- In the 1994–95 school year, 97 percent of public school teachers worked with individual students at least once a week; 87 percent worked with small groups of students; and 62 percent lectured to their students. To demonstrate a concept to their class, 87 percent of public school teachers used the board or overhead projector, while 57 percent used a computer, videotape, or other electronic medium.
- Ninety percent of public school teachers asked students to respond orally to questions testing recall and 85 percent asked students to respond orally to open-ended questions at least once a week. Seventy-two percent of public school teachers had students use textbooks, while 29 percent required students to use school computers for writing.
- Public school teachers were more likely than private school teachers to work with small groups of students and to demonstrate concepts using a computer, videotape, or other electronic medium, while private school teachers were more likely than public school teachers to lecture to their students.
- Elementary teachers were more likely to work with small groups of students and to demonstrate concepts using a computer, videotape, or other electronic medium than were secondary teachers.

Percentage of teachers¹ who used selected teaching methods, by control and level of school: School year 1994–95

		Public			Private			
Selected teaching methods	Total ²	Elementary ²	Secondary	Total ²	Elementary ²	Secondary		
Percentage of teachers who reported using the fo	ollowing i	nstructional str	ategies at leas	t once a weel	k ³			
Provide instruction to the class as a whole	97.9	99.2	98.0	97.2	98.7	98.1		
Demonstrate a concept using the board or								
overhead projector	87.1	96.9	86.7	87.1	96.2	88.6		
Work with individual students	96.6	99.6	94.9	94.4	99.1	91.8		
Demonstrate a concept using a computer,								
videotape, or other electronic medium	56.5	74.5	46.9	45.3	56.9	38.6		
Lecture	61.6	68.7	66.9	69.0	78.4	73.3		
Work with small groups of students	87.0	95.9	79.7	81.0	90.5	72.1		
Percentage of teachers who required students to	perform	the following i	n-class activitie	s at least once	e a week³			
Respond orally to questions testing recall	90.3	96.0	86.8	88.8	94.5	89.7		
Complete a worksheet or workbook								
emphasizing routine practice	67.1	86.3	62.2	70.4	93.0	57.9		
Use a textbook	71.7	88.3	75.7	79.2	92.3	83.6		
Engage in discussion primarily with the teacher	85.2	94.6	80.7	86.3	92.1	86.7		
Use school computers for writing	29.3	49.8	17.8	27.1	39.9	21.5		
Respond orally to open-ended questions	85.4	93.6	80.1	84.2	93.5	81.8		

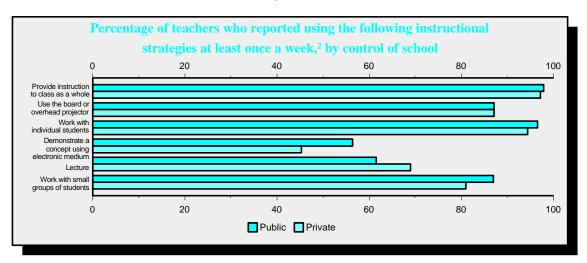
¹ Includes only those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers are not included in this analysis.

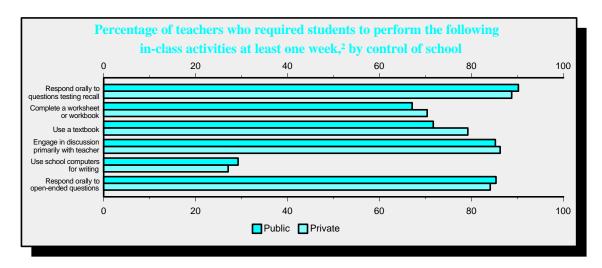
² "Total" includes all elementary and secondary teachers, while "elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

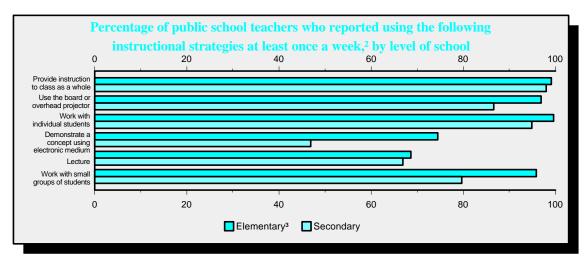
Includes those teachers who responded "almost every day" and "once or twice a week."

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Percentage of teachers¹ using selected teaching methods: School year 1994–95







¹ Includes only those teachers who taught in both the 1993-94 and 1994-95 school years; therefore, new teachers are not included in this analysis.

² Includes those teachers who responded "almost every day" and "once or twice a week."

 $^{^3}$ "Elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey, 1994–95.

Percentage of teachers¹ who used selected teaching methods, by control and level of school: School year 1994–95

		Public	<u> </u>	_	Private		
Selected teaching methods	Total	Elementary	Secondary	Total ²	Elementary ²	Secondary	
Percentage of teachers who reported using the f	ollowing	instructional st	rategies at lea	st once a wee	k³		
Provide instruction to the class as a whole	97.9	99.2	98.0	97.2	98.7	98.1	
Demonstrate a concept using the board or							
overhead projector	87.1	96.9	86.7	87.1	96.2	88.6	
Work with individual students	96.6	99.6	94.9	94.4	99.1	91.8	
Demonstrate a concept using a computer,							
videotape, or other electronic medium	56.5	74.5	46.9	45.3	56.9	38.6	
Lecture	61.6	68.7	66.9	69.0	78.4	73.3	
Work with small groups of students	87.0	95.9	79.7	81.0	90.5	72.1	
Percentage of teachers who required students to	perform	the following	in-class activiti	es at least onc	e a week		
Respond orally to questions testing recall	90.3	96.0	86.8	88.8	94.5	89.7	
Complete a worksheet or workbook							
emphasizing routine practice	67.1	86.3	62.2	70.4	93.0	57.9	
Use a textbook	71.7	88.3	75.7	79.2	92.3	83.6	
Engage in discussion primarily with the teacher	85.2	94.6	80.7	86.3	92.1	86.7	
Use school computers for writing	29.3	49.8	17.8	27.1	39.9	21.5	
Respond orally to open-ended questions	85.4	93.6	80.1	84.2	93.5	81.8	

Includes only those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers are not included in this analysis.

² "Total" includes all elementary and secondary teachers, while "elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

³ Includes those teachers who responded "almost every day" and "once or twice a week."

Table 37-1 Percentage of teachers¹ who used selected teaching methods, by years of teaching experience and level of education: School year 1994-95

		Years	of				
		teaching exp	perience	ŀ	Higest degre	ee attaine	d
		Less	4 or				Ed specialist
Selected teaching methods	Total	than 4	more	Associate's		Master's	or doctor's
Percentage of teachers who reported using the following	owing	instructional st	rategies a	at least once	a week²		
Provide instruction to the class as a whole	97.8	98.2	97.8	89.4	97.4	98.6	99.6
Facilitate a discussion	91.5	92.2	91.4	85.3	91.9	90.7	97.2
Demonstrate a concept using the board or							
overhead projector	87.1	89.7	86.7	79.3	86.4	87.8	88.7
Work with individual students	96.3	96.7	96.3	97.3	96.7	95.7	99.1
Demonstrate a concept using a computer,							
videotape, or other electronic medium	55.1	48.0	56.2	53.2	54.3	56.0	62.0
Lecture	62.5	65.9	62.0	58.2	63.1	61.0	68.2
Work with small groups of students	86.3	84.5	86.5	89.9	86.0	86.7	88.8
Lead a question-and-answer session	85.2	84.3	85.3	85.1	85.9	84.0	88.2
Demonstrate a concept using manipulatives,							
models, other tools, or objects	73.4	73.2	73.4	77.3	75.0	70.6	77.8
Administer a test or quiz for less than a full period	54.8	52.2	55.2	27.0	54.4	53.6	70.7
Administer a test or quiz for a full period	17.0	18.6	16.8	13.1	17.6	16.4	14.2
Percentage of teachers who emphasized the follow	ing at	least once a v	week⁴				
Generalizing from patterns or examples	76.5	75.7	76.7	89.7	74.2	79.4	78.5
Analyzing and interpreting information	81.7	82.2	81.7	91.3	79.7	84.0	85.7
Organizing, summarizing, or displaying information	77.9	78.5	77.8	85.9	76.0	80.2	80.3
Percentage of teachers who responded in the follow	wing w	ays at least o	nce a we	ek² if a stude	nt gave an	incorrect	response
Call on other students to get their responses and							
then discuss what is correct	84.4	85.5	84.2	88.9	85.2	83.1	88.2
Ask the student another question to help him							
or her get the correct response	93.4	93.5	93.4	95.9	93.6	93.2	94.3
Call on another student likely to give the							
correct response	69.7	65.7	70.3	72.2	68.9	70.8	74.2
Provide the correct response	60.8	57.3	61.3	58.1	59.3	62.0	70.9

Includes only those teachers who taught in both the 1993-94 and 1994-95 school years; therefore, new teachers are

not included in this analysis.

⁴ Includes those teachers who responded "almost every day" and "once or twice a week."

Table 37-2 Percentage of teachers¹ who used selected teaching methods, by control and level of school: School year 1994–95

		Public			Private			
Selected teaching methods	Total	Elementary	Secondary	Total	Elementary	Secondary		
Percentage of teachers who reported using the following th	owing ir	structional str	ategies at le	ast once a week	(3			
Provide instruction to the class as a whole	97.9	99.2	98.0	97.2	98.7	98.1		
Facilitate a discussion	91.6	98.3	87.2	90.8	97.8	88.8		
Demonstrate a concept using the board or								
overhead projector	87.1	96.9	86.7	87.1	96.2	88.6		
Work with individual students	96.6	99.6	94.9	94.4	99.1	91.8		
Demonstrate a concept using a computer,								
videotape, or other electronic medium	56.5	74.5	46.9	45.3	56.9	38.6		
Lecture	61.6	68.7	66.9	69.0	78.4	73.3		
Work with small groups of students	87.0	95.9	79.7	81.0	90.5	72.1		
Lead a question-and-answer session	85.3	95.0	81.3	84.5	95.1	81.4		
Demonstrate a concept using manipulatives,								
models, other tools, or objects	74.6	92.8	57.8	64.4	85.3	45.7		
Administer a test or quiz for less than a full period	54.4	72.1	56.0	57.3	76.9	59.9		
Administer a test or quiz for a full period	16.1	26.5	14.4	23.4	40.6	18.9		
Percentage of teachers who emphasized the follow	ing at le	east once a w	reek°					
Generalizing from patterns or examples	76.7	83.4	73.2	75.3	78.9	74.6		
Analyzing and interpreting information	81.6	85.5	80.7	82.4	85.0	85.7		
Organizing, summarizing, or displaying information	78.1	83.1	76.5	76.3	81.6	77.4		
Percentage of teachers who responded in the follow	wing wa	ays if a student	gave an inc	correct response	3			
Call on other students to get their responses and								
then discuss what is correct	84.0	88.4	82.0	87.4	92.7	87.8		
Ask the student another question to help him								
or her get the correct response	93.5	97.2	91.0	93.2	97.5	94.7		
Call on another student likely to give the								
correct response	69.5	76.9	63.7	71.4	78.3	71.8		
Provide the correct response	61.0	64.9	58.0	59.0	62.5	60.9		

¹ Includes only those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers are not included in this analysis.

² "Total" includes all elementary and secondary teachers, while "elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

³ Includes those teachers who responded "almost every day" and "once or twice a week."

Table 37-3 Percentage of teachers¹ who reported that their students participated in selected teaching methods, by control and level of school: School year 1993-94

teaching methods, by condor and lever		Public	<i>J</i>	Private		
Selected teaching methods	Total	Elementary	Secondary	Total	Elementary	Secondary
Percentage of teachers who required students to p	erform t	he following in	n-class activities	at least once	e a week³	
Respond orally to questions testing recall	90.3	96.0	86.8	88.8	94.5	89.7
Use school- or student-owned calculators	24.4	29.1	25.6	22.8	28.0	25.7
Lead whole group discussions	50.9	62.1	44.5	47.8	55.5	46.0
Listen to or observe teacher presentations	75.6	82.0	74.6	76.0	83.8	72.9
Use hands-on materials or objects	79.9	91.0	68.1	71.8	82.8	54.9
Complete a worksheet or workbook emphasizing						
routine practice	67.1	86.3	62.2	70.4	93.0	57.9
Use a textbook	71.7	88.3	75.7	79.2	92.3	83.6
Engage in discussion primarily with the teacher	85.2	94.6	80.7	86.3	92.1	86.7
Use school computers for writing	29.3	49.8	17.8	27.1	39.9	21.5
Use supplementary printed materials other						
than textbooks	79.1	93.5	71.1	69.1	87.8	56.6
Engage in discussion primarily with other students	74.0	88.2	64.7	70.8	85.2	63.1
Respond orally to open-ended questions	85.4	93.6	80.1	84.2	93.5	81.8
Work on a performing arts project	21.8	33.4	10.7	26.9	41.9	11.2
Percentage of teachers who reported that student	s perforr	med the follow	ing at least once	e a week°		
Explained how what they learned in class	•		J			
related to the real world	63.5	75.7	58.6	62.4	75.1	55.3
Worked individually on projects or presentations	46.3	58.5	38.0	45.1	48.5	39.3
Worked on projects that required at least one	10.0	00.0	00.0	10.1	10.0	07.0
week to complete	18.6	17.9	18.3	18.5	19.3	17.5
Evaluated and improved their own work	61.2	69.6	56.9	54.2	61.5	47.7
Worked on problems for which there were	02	07.0	00.7	02	01.0	
several appropriate answers	59.5	73.3	53.3	54.4	61.6	53.5
Worked on problems for which there were						
several appropriate methods of solution	58.8	71.9	53.5	55.7	63.5	54.9
Worked as part of a group on projects or						
presentations to earn individual grades	33.5	37.3	32.5	25.7	31.7	25.2
Evaluated the work of other students	29.7	37.5	25.1	26.8	30.8	22.5
Worked as part of a group on projects or						
presentations to earn a group grade	18.7	22.8	18.6	13.6	18.9	11.0
Put events or things in order and explained why						
they were organized that way	39.0	52.5	28.4	31.3	36.7	26.0
Discussed with the whole class solutions						
developed in small groups	31.5	49.3	22.2	27.4	33.3	22.6
Conferred with other student about their work	66.2	75.1	63.8	59.3	61.7	58.3

Includes only those teachers who taught in both the 1993–94 and 1994–95 school years; therefore, new teachers are not included in this analysis.

² "Total" includes all elementary and secondary teachers, while "elementary" includes only those whose main assignment was teaching "general elementary." See the supplemental note to *Indicator 36* for further discussion.

³ Includes those teachers who responded "almost every day" and "once or twice a week."

Table 37-4 Percentage of teachers¹ who reported that their students participated in selected teaching methods, by years of teaching experience and level of education: School year 1994-95

	_						
	1	teaching exp	perience		n level		
	-	Less	4 or			E	d specialist
Selected teaching methods	Total	than 4	more				or doctor's
Percentage of teachers who required students to p	erform th	e following in	n-class ac	tivities at lea	st once a w	eek²	
Respond orally to questions testing recall	90.1	89.7	90.1	86.7	91.2	88.8	89.1
Use school- or student-owned calculators	24.2	21.8	24.6	8.4	21.8	26.9	33.3
Lead whole group discussions	50.5	53.5	50.0	45.6	51.5	48.3	58.2
Listen to or observe teacher presentations	75.7	73.5	76.0	78.0	77.0	75.3	65.9
Use hands-on materials or objects	78.9	75.9	79.3	88.5	79.9	77.0	82.7
Complete a worksheet or workbook emphasizing							
routine practice	67.5	66.9	67.6	57.1	69.3	65.4	67.7
Use a textbook	72.7	73.5	72.5	69.4	73.4	71.5	76.2
Engage in discussion primarily with the teacher	85.3	84.3	85.5	89.6	85.4	85.2	85.5
Use school computers for writing	29.0	28.3	29.1	9.6	29.2	29.0	28.5
Use supplementary printed materials other							
than textbooks	77.8	77.3	77.9	86.5	77.8	76.5	90.7
Engage in discussion primarily with other students	73.6	74.4	73.5	70.4	73.7	72.0	85.7
Respond orally to open-ended questions	85.2	85.6	85.2	93.9	84.2	85.5	91.7
Work on a performing arts project	22.4	24.6	22.1	25.3	23.9	20.1	23.6
Percentage of teachers who reported that students	s performe	ed the follow	ing at lea	ast once a w	eek⁴		
Explained how what they learned in class	•		J				
related to the real world	63.4	66.2	63.0	81.0	64.0	61.8	66.9
Worked individually on projects or presentations	46.2	44.2	46.5	64.7	46.4	45.5	48.3
Worked on projects that required at least one	10.2	2	10.0	01.7	10.1	10.0	10.0
week to complete	18.5	17.0	18.8	48.0	16.4	20.1	24.0
Evaluated and improved their own work	60.3	58.8	60.6	80.4	59.1	60.7	70.0
Worked on problems for which there were	00.0	55.5	00.0	00	0,,,	0017	, 0.0
several appropriate answers	58.8	61.2	58.5	72.5	56.9	59.7	70.3
Worked on problems for which there were							
several appropriate methods of solution	58.4	60.2	58.1	68.8	55.9	60.6	65.9
Worked as part of a group on projects or							
presentations to earn individual grades	32.6	34.3	32.3	52.9	29.1	36.3	38.0
Evaluated the work of other students	29.3	30.3	29.2	42.3	28.7	29.8	29.2
Worked as part of a group on projects or							
presentations to earn a group grade	18.1	18.8	17.9	27.5	15.7	20.8	19.1
Put events or things in order and explained why							
they were organized that way	38.1	37.3	38.2	61.6	36.9	38.6	45.4
Discussed with the whole class solutions				2.10		22.0	
developed in small groups	31.0	34.5	30.4	40.8	29.6	32.5	33.4
Conferred with other student about their work	65.4	66.9	65.2	71.6	66.8	63.7	64.1

⁺ Includes only those teachers who taught in both the 1993-94 and 1994-95 school years; therefore, new teachers are

not included in this analysis.

² Includes those teachers who responded "almost every day" and "once or twice a week."

Table S37 Standard errors for the text table in *Indicator 37*

		Public			Private			
Selected teaching methods	Total	Elementary	Secondary	Total	Elementary	Secondary		
Percentage of teachers who reported using the fo	ollowing i	instructional st	rategies at lea	ist once a week				
Provide instruction to the class as a whole	0.4	0.4	0.4	0.6	0.7	0.7		
Demonstrate a concept using the board or								
overhead projector	0.7	0.7	1.2	1.1	1.0	1.7		
Work with individual students	0.4	0.2	0.7	0.7	0.5	1.4		
Demonstrate a concept using a computer,								
videotape, or other electronic medium	1.0	2.0	1.7	1.5	2.5	2.2		
Lecture	1.3	2.1	1.5	1.6	2.3	2.3		
Work with small groups of students	0.6	0.9	1.1	1.2	1.8	2.2		
Percentage of teachers who required students to	perform	the following	n-class activiti	es at least once	a week			
Respond orally to questions testing recall	8.0	8.0	1.3	1.0	1.4	1.5		
Complete a worksheet or workbook								
emphasizing routine practice	0.9	1.3	1.4	1.2	1.2	2.0		
Use a textbook	1.2	1.5	1.4	1.3	1.6	1.7		
Engage in discussion primarily with the teacher	0.9	8.0	1.4	1.2	1.5	1.8		
Use school computers for writing	1.1	2.5	1.4	1.5	2.8	1.6		
Respond orally to open-ended questions	8.0	1.2	1.4	1.0	1.1	1.8		

Table S37-1 Standard errors for table 37-1

		Years o	of				
		teaching exp	perience	Н	ighest degree	e attaine	ed
		Less	4 or				Ed specialist
Selected teaching methods	Total	than 4	more	Associate's	Bachelor's M	1aster's	or doctor's
Percentage of teachers who reported using the follo	owing in	structional stra	ategies a	t least once	a week		
Provide instruction to the class as a whole	0.3	0.4	0.4	5.2	0.5	0.4	0.3
Facilitate a discussion	0.6	0.9	0.7	5.4	0.8	0.9	1.3
Demonstrate a concept using the board or							
overhead projector	0.6	0.8	0.7	6.7	1.0	1.2	2.5
Work with individual students	0.4	0.4	0.4	1.4	0.5	0.6	0.4
Demonstrate a concept using a computer,							
videotape, or other electronic medium	0.9	1.8	1.0	11.0	1.2	1.9	4.9
Lecture	1.1	1.5	1.2	11.6	1.6	1.6	4.2
Work with small groups of students	0.6	0.9	0.7	4.7	0.9	1.2	2.8
Lead a question-and-answer session	0.7	1.1	0.8	5.6	0.9	1.3	3.3
Demonstrate a concept using manipulatives,							
models, other tools, or objects	1.0	1.4	1.1	9.5	1.3	1.6	3.0
Administer a test or quiz for less than a full period	1.1	1.7	1.1	8.1	1.5	1.4	4.2
Administer a test or quiz for a full period	0.7	1.1	0.8	4.8	1.2	1.0	3.6
Percentage of teachers who emphasized the follow	ing at le	east once a w	eek				
Generalizing from patterns or examples	0.8	1.3	0.9	4.7	1.1	1.4	4.0
Analyzing and interpreting information	0.8	1.1	0.9	3.4	0.9	1.2	3.1
Organizing, summarizing, or displaying information	0.9	1.2	1.0	6.5	1.2	1.3	4.2
Percentage of teachers who responded in the follow	wing wa	ays at least on	ce a wee	ek if a studen	t gave an inc	orrect re	esponse
Call on other students to get their responses and							
then discuss what is correct	0.7	1.2	0.8	5.6	1.1	1.1	2.6
Ask the student another question to help him							
or her get the correct response	0.5	0.7	0.5	1.9	0.7	0.8	2.3
Call on another student likely to give the							
correct response	0.9	1.3	1.0	7.7	1.3	1.4	4.5
Provide the correct response	1.0	1.5	1.1	10.5	1.4	1.5	4.5

Table S37-2 Standard errors for table 37-2

		Public			Private			
Selected teaching methods	Total	Elementary	Secondary	Total	Elementary	Secondary		
Percentage of teachers who reported using the follow	wing ins	tructional stra	ategies at lea	ast once a week				
Provide instruction to the class as a whole	0.4	0.4	0.4	0.6	0.7	0.7		
Facilitate a discussion	0.7	0.6	1.2	0.9	0.7	1.6		
Demonstrate a concept using the board or								
overhead projector	0.7	0.7	1.2	1.1	1.0	1.7		
Work with individual students	0.4	0.2	0.7	0.7	0.5	1.4		
Demonstrate a concept using a computer,								
videotape, or other electronic medium	1.0	2.0	1.7	1.5	2.5	2.2		
Lecture	1.3	2.1	1.5	1.6	2.3	2.3		
Work with small groups of students	0.6	0.9	1.1	1.2	1.8	2.2		
Lead a question-and-answer session	0.7	1.0	1.1	1.1	1.2	1.9		
Demonstrate a concept using manipulatives,								
models, other tools, or objects	1.2	1.4	1.7	1.5	2.0	2.3		
Administer a test or quiz for less than a full period	1.2	1.8	1.7	1.9	2.9	2.8		
Administer a test or quiz for a full period	0.8	2.0	0.9	1.3	2.4	1.7		
Percentage of teachers who emphasized the following	ng at le	ast once a w	eek					
Generalizing from patterns or examples	0.9	1.4	1.0	1.3	2.3	2.1		
Analyzing and interpreting information	0.9	1.7	1.2	1.2	1.9	1.5		
Organizing, summarizing, or displaying information	1.0	2.0	1.2	1.1	2.4	2.0		
Percentage of teachers who responded in the follow	ing way	s if a student	gave an inc	correct response				
Call on other students to get their responses and								
then discuss what is correct	0.9	1.5	1.0	1.1	1.1	1.5		
Ask the student another question to help him								
or her get the correct response	0.5	0.8	1.0	0.6	0.7	0.9		
Call on another student likely to give the								
correct response	1.0	1.7	1.5	1.6	2.7	2.1		
Provide the correct response	1.2	2.2	1.7	1.5	2.4	2.1		

Table S37-3 Standard errors for table 37-3

		Public			Private		
Selected teaching methods	Total Ele	mentary Se	condary	Total	Elementary	Secondary	
Percentage of teachers who required students to pe	erform the fo	llowing in-cla	ass activities a	t least once	a week		
Respond orally to questions testing recall	0.8	0.8	1.3	1.0	1.4	1.5	
Use school- or student-owned calculators	1.0	1.9	1.3	1.0	2.3	1.7	
Lead whole group discussions	0.9	2.2	1.4	1.9	2.5	2.8	
Listen to or observe teacher presentations	1.1	1.6	1.3	1.1	2.2	2.0	
Use hands-on materials or objects	1.0	1.3	1.6	1.3	2.2	1.9	
Complete a worksheet or workbook emphasizing							
routine practice	0.9	1.3	1.4	1.2	1.2	2.0	
Use a textbook	1.2	1.5	1.4	1.3	1.6	1.7	
Engage in discussion primarily with the teacher	0.9	0.8	1.4	1.2	1.5	1.8	
Use school computers for writing	1.1	2.5	1.4	1.5	2.8	1.6	
Use supplementary printed materials other							
than textbooks	0.9	1.1	1.5	1.2	1.8	1.9	
Engage in discussion primarily with other students	0.9	1.6	1.5	1.1	1.8	1.8	
Respond orally to open-ended questions	0.8	1.2	1.4	1.0	1.1	1.8	
Work on a performing arts project	0.9	2.1	1.1	1.2	2.9	1.2	
related to the real world Worked individually on projects or presentations Worked on projects that required at least one	1.1 1.4	1.8 2.4	1.7 1.7	1.3 1.5	2.1 2.5	2.1 2.2	
week to complete	1.0	2.0	1.3	1.3	2.4	1.8	
Evaluated and improved their own work	1.1	2.0	1.6	1.6	3.0	2.4	
Worked on problems for which there were		2.0			0.0		
several appropriate answers	1.1	1.8	1.8	1.4	2.9	1.9	
Worked on problems for which there were							
several appropriate methods of solution	1.2	1.7	1.5	1.2	2.4	2.1	
Worked as part of a group on projects or							
presentations to earn individual grades	1.2	2.4	1.6	1.0	2.3	1.8	
Evaluated the work of other students	1.2	2.5	1.5	1.3	2.2	1.6	
Worked as part of a group on projects or							
presentations to earn a group grade	1.0	1.9	1.4	1.0	2.2	1.3	
Put events or things in order and explained why							
they were organized that way	1.1	2.4	1.5	1.7	2.6	2.7	
Discussed with the whole class solutions							
developed in small groups	1.0	2.3	1.4	1.2	2.1	2.0	
Conferred with other student about their work	1.2	1.8	1.7	1.3	2.7	2.2	

Table S37-4 Standard errors for table 37-4

		Years	of				
		teaching ex	perience		Level of e	ducation	
	-	Less	4 or			E	d specialist
Selected teaching methods	Total	than 4	more	Associate's	Bachelor's	Master's	or doctor's
Percentage of teachers who required students to p	erform t	he following i	n-class ac	tivities at lea	st once a w	eek	
Respond orally to questions testing recall	0.7	1.0	0.8	5.9	0.8	1.0	2.9
Use school- or student-owned calculators	0.9	1.4	1.0	4.2	1.2	1.5	5.6
Lead whole group discussions	0.9	1.7	1.0	10.8	1.5	1.4	4.4
Listen to or observe teacher presentations	0.9	1.5	1.1	7.7	1.1	1.5	4.7
Use hands-on materials or objects	0.9	1.4	1.0	6.7	1.1	1.4	4.4
Complete a worksheet or workbook emphasizing							
routine practice	8.0	1.4	0.9	9.8	1.1	1.4	3.7
Use a textbook	1.1	1.2	1.2	9.5	1.3	1.9	3.6
Engage in discussion primarily with the teacher	8.0	1.3	0.9	4.8	0.9	1.4	3.0
Use school computers for writing	0.9	1.5	1.0	4.5	1.3	1.6	5.2
Use supplementary printed materials other							
than textbooks	8.0	1.3	0.9	4.5	0.9	1.5	2.5
Engage in discussion primarily with other students	0.8	1.2	1.0	9.8	1.2	1.6	3.1
Respond orally to open-ended questions	0.7	1.1	0.8	2.8	1.0	1.1	2.0
Work on a performing arts project	8.0	1.3	0.8	7.4	1.2	1.3	4.8
Percentage of teachers who reported that students Explained how what they learned in class related to the real world	perforn 1.0	ned the follov 1.2	ving at lea	ast once a w 6.9	eek 1.5	1.7	4.8
Worked individually on projects or presentations	1.2	1.5	1.4	9.3	1.7	1.8	5.2
Worked on projects that required at least one							
week to complete	0.9	1.5	1.0	9.5	1.0	1.4	4.6
Evaluated and improved their own work	1.0	1.1	1.1	6.5	1.4	1.3	4.5
Worked on problems for which there were							
several appropriate answers	1.0	1.3	1.2	7.7	1.2	1.6	4.9
Worked on problems for which there were							
several appropriate methods of solution	1.1	1.6	1.3	9.3	1.2	1.7	5.0
Worked as part of a group on projects or							
presentations to earn individual grades	1.1	1.5	1.3	10.8	1.1	1.9	5.0
Evaluated the work of other students	1.0	1.7	1.2	9.8	1.1	1.6	5.4
Worked as part of a group on projects or							
presentations to earn a group grade	0.9	1.3	1.0	10.4	1.0	1.7	4.0
Put events or things in order and explained why							
they were organized that way	1.0	1.7	1.1	10.7	1.4	1.3	4.9
Discussed with the whole class solutions							
developed in small groups	0.9	1.3	1.0	10.6	1.3	1.7	4.1
Conferred with other student about their work	1.1	1.3	1.2	9.5	1.3	1.7	5.6